

INTERNATIONAL SEARCH REPORT

Intel. Application No

PCT/FR 03/02761

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 F16K11/085

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 F16K F16J F01P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 655 252 A (KRUMHANS� MARK U) 7 April 1987 (1987-04-07) abstract; figures 1-26	1,2,4,5, 10-12,15
Y	---	16
Y	US 5 353 757 A (KATOH ATSUSHI ET AL) 11 October 1994 (1994-10-11) abstract; figures 1-31 column 1, line 67 -column 2, line 28	16
A	---	1,15
X	FR 1 352 784 A (DURIRON COMPANY) 14 February 1964 (1964-02-14) figures 1-7	1-3,6-9
X	GB 983 143 A (ATOMIC ENERGY AUTHORITY UK) 10 February 1965 (1965-02-10) figures 1-4	1,2,4-6
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

29 March 2004

Date of mailing of the international search report

13/04/2004

Name and mailing address of the ISA
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Bilo, E

INTERNATIONAL SEARCH REPORT

International Application No

PCT/FR 03/02761

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 11 16 005 B (BOULTON AIRCRAFT LTD) 26 October 1961 (1961-10-26) figures 1-8	1-3, 5, 15
A	---	13
X	GB 1 549 100 A (NORTHERN ENG IND) 1 August 1979 (1979-08-01) figures 1-6	1-3, 5, 10, 15
A	---	14
X	FR 1 394 096 A (KIRKWOOD CREAL EUGENE; MORONEY BERNARD MARTIN) 2 April 1965 (1965-04-02) figures 1-10	1-3, 5, 10, 15
X	US 5 172 725 A (KITAGAWA ISAO) 22 December 1992 (1992-12-22) abstract; figures 1-8	1, 4, 5, 15
A	---	14
X	EP 0 685 693 A (SANYO ELECTRIC CO) 6 December 1995 (1995-12-06) abstract; figures 1-18	1-5, 15
A	---	11-13
A	WO 99 53178 A (ALSTOM UK LTD ; DEAN WILLIAM (GB); STATHAM KENNETH GEORGE (GB)) 21 October 1999 (1999-10-21) abstract; figures 1-3	1, 15, 16

Information on patent family members

International Application No

ST/FR 03/02761

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4655252	A	07-04-1987	NONE	
US 5353757	A	11-10-1994	JP 3422036 B2 JP 6081648 A	30-06-2003 22-03-1994
FR 1352784	A	14-02-1964	NONE	
GB 983143	A	10-02-1965	NONE	
DE 1116005	B	26-10-1961	NONE	
GB 1549100	A	01-08-1979	AU 3521778 A	25-10-1979
FR 1394096	A	02-04-1965	NONE	
US 5172725	A	22-12-1992	NONE	
EP 0685693	A	06-12-1995	JP 7324844 A BR 9502613 A CA 2150436 A1 CN 1121161 A ,B DE 69516454 D1 DE 69516454 T2 EP 0685693 A2 SG 28280 A1 US 5634352 A	12-12-1995 09-03-2004 01-12-1995 24-04-1996 31-05-2000 23-11-2000 06-12-1995 01-04-1996 03-06-1997
WO 9953178	A	21-10-1999	GB 2338056 A EP 1071869 A1 WO 9953178 A1 JP 2002511548 T US 6491001 B1	08-12-1999 31-01-2001 21-10-1999 16-04-2002 10-12-2002